

$$57 < SiO_2 < 75$$
;

$$5 < BaO < 25$$
; and

2 < MgO < 18, said composition having the characteristics of being chemically resistant to oxidizing and reducing conditions encountered in sealing solid oxide fuel cells and the matrix composition remaining in a glassy state after sealing at temperatures up to 1300°C.

2. (Amended) The class matrix composition of claim 1, consisting essentially by mol percent of:

$$67 < SiO_2 < 75$$
;

$$10 < BaO < 20$$
; and

$$7.5 < MgO < 12.5$$
.

3. (Amended) A glass matrix-ceramic particulate composite consisting essentially of:

a glassy phase consisting of (by mol percent)

$$57 < SiO_2 < 75$$
;

2 < MgO < 18 said composition having the characteristics of being chemically resistant to oxidizing and reducing conditions encountered in sealing solid oxide fuel cells and the matrix composition remaining in a glassy state after sealing at temperatures up to 1300°C; and

between 15 and 40% by weight (between 5 and 30 mol percent) of a forsterite phase consisting of Mg₂SiO₄.

4. (Amended) The glass matrix-ceramic particulate composite of claim 3, consisting essentially of:

a glassy phase consisting of (by mol percent)

$$67 < SiO_2 < 75;$$



between 20 and 35 percent by weight (between 10 and 25 mol percent) of a forsterite phase consisting of Mg₂SiO₄.

5. (Amended) The glass matrix composition of claim 1, consisting essentially by mol percent of:

$$57 < SiO_2 < 75$$

$$5 < (BaO + Sr\phi) < 25$$
; and

- 2 < MgO < 18, said composition having the characteristics of being chemically resistant to oxidizing and reducing conditions encountered in sealing solid oxide fuel cells and the matrix composition remaining in a glassy state after sealing at temperatures up to 1300°C.
- 6. (Amended) The glass matrix-ceramic particulate composite of claim 3, consisting essentially of:

a glassy phase consisting of (by mol percent)

$$57 < SiO_2 < 75;$$

$$5 < (BaO + $rO) < 25$$
; and

2 < MgO < 18, said composition having the characteristics of being chemically resistant to oxidizing and reducing conditions encountered in sealing solid oxide fuel cells and the matrix composition remaining in a glassy state after sealing at temperatures up to 1300°C; and

between 15 and 45 percent by weight (between 5 and 30 mol percent) of a forsterite phase consisting of $Mg_2 SiO_4$.